

AMENDMENTS TO THE CLAIMS

Please replace all prior versions, and listings, of claims in the application with the following listing of claims:

Claims 1-15. (Cancelled)

Claim 16. (Currently Amended) ~~A processing agent~~ An apparatus for processing data at a node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, the ~~processing agent~~ apparatus comprising:

a data store that ~~is operable to~~ stores a plurality of entries associated with the multicast group, wherein each entry identifies a source that published the entry;

logic that ~~is operable to~~ disseminates the plurality of entries to members of the multicast group;

logic that ~~is operable to~~ receives, from a node that is not a member of the multicast group, a request to run a query, wherein the query specifies matching criteria;

logic that ~~is operable to~~ runs the query against the entries in the data store;

logic that indicates that the apparatus has been designated as a sole rendezvous node in the multicast group, wherein designation as the sole rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

logic that ~~is operable to~~ disseminates one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group.

Claim 17. (Cancelled)

Claim 18. (Currently Amended) The ~~processing agent apparatus~~ of Claim 16, further comprising logic that ~~is operable to add~~ a first entry to the plurality of entries in the data store in response to a request from a first node to add the first entry.

Claim 19. (Currently Amended) The ~~processing agent apparatus~~ of Claim 18, wherein the logic that ~~is operable to disseminate~~ is further operable to add a first entry to the plurality of entries further automatically disseminates the first entry to the plurality of the nodes that form the multicast group in response to the request from the first node to add the first entry to the plurality of entries.

Claim 20. (Currently Amended) The ~~processing agent apparatus~~ of Claim 16, further comprising logic that deletes a first entry of the plurality of entries in the data store in response to a request from a first node to relinquish the first entry.

Claim 21. (Currently Amended) The ~~processing agent apparatus~~ of Claim 20, further comprising logic that ~~is operable to indicate~~, to the plurality of the nodes that form the multicast group, that the first entry has been relinquished, wherein the indication is in response to the request from the first node to relinquish the first entry.

Claim 22. (Currently Amended) The ~~processing agent apparatus~~ of Claim 16, wherein the source that published the entry is not a member of the multicast group.

Claim 23. (Currently Amended) The ~~processing agent apparatus~~ of Claim 16, wherein the source that published the entry is a member of the multicast group.

Claim 24. (Currently Amended) The ~~processing agent apparatus~~ of Claim 16, wherein each entry is associated with a priority that specifies its delivery priority relative to other entries.

Claim 25. (Cancelled)

Claim 26. (Currently Amended) A method for operating a ~~processing agent an apparatus~~ coupled to a selected node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes, including the selected node, form a multicast group, the method comprising steps of:

storing, at the ~~processing agent apparatus~~, a plurality of entries associated with the multicast group, wherein each entry identifies a source that published the entry;
disseminating the plurality of entries to members of the multicast group;
receiving a request from a node that is not member of the multicast group to run a query against the entries stored at the ~~processing agent apparatus~~, wherein the query specifies matching criteria;
indicating that the apparatus has been designated as a sole rendezvous node in the multicast group, wherein designation as the sole rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

disseminating one or more entries that satisfy the matching criteria to the node that is not member of the multicast group.

Claim 27. (Cancelled)

Claim 28. (Currently Amended) The method of Claim 26, further comprising adding a first entry to the plurality of entries stored at the ~~processing agent apparatus~~ in response to a request from a first node to add the first entry.

Claim 29. (previously presented) The method of Claim 28, further comprising automatically disseminating the first entry to the plurality of the nodes that form the multicast group in response to the request from the first node to add the first entry.

Claim 30. (Currently Amended) The method of Claim 26, further comprising deleting a first entry of the plurality of entries stored at the ~~processing agent apparatus~~ in response to a request from a first node to relinquish the first entry.

Claim 31. (Currently Amended) The method of Claim 30, further comprising indicating to the plurality of the nodes that form the multicast group that the first entry of the plurality of entries stored at the ~~processing agent apparatus~~ has been relinquished, wherein the indicating is performed in response to the request from the first node to relinquish the first entry.

Claim 32. (previously presented) The method of Claim 26, wherein the source that published the entry is not a member of the multicast group.

Claim 33. (previously presented) The method of Claim 26, wherein the source that published the entry is a member of the multicast group.

Claim 34. (previously presented) The method of Claim 26, wherein each entry is associated with a priority that specifies its delivery priority relative to other entries.

Claim 35. (Currently Amended) The method of Claim 26, further comprising:
receiving, from a particular node, a request to run a query against the entries stored at
the ~~processing agent apparatus~~, wherein the query specifies a source that
published one or more entries; and
asynchronously notifying the particular node of a modification to a first entry;
wherein the asynchronously notifying the particular node is performed in response to the
source that published the first entry modifying the first entry.

Claim 36. (Currently Amended) A data network for transmitting data, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, the data network comprising:

a plurality of ~~processing agents apparatuses~~, each of the ~~processing agents apparatuses~~
comprising:
a data store that ~~is operable to~~ stores a plurality of entries associated with the
multicast group, wherein each entry identifies a source that published the
entry;

logic that ~~is operable to~~ disseminates the plurality of entries to members of the multicast group;

logic that ~~is operable to~~ receives, from a node that is not a member of the multicast group, a request to run a query, wherein the query specifies matching criteria;

logic that ~~is operable to~~ runs the query against the entries in the data store;

logic that indicates that the apparatus has been designated as a sole rendezvous node in the multicast group, wherein designation as the sole rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

logic that ~~is operable to~~ disseminates one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group.

Claim 37. (New) The apparatus of Claim 16, wherein the plurality of entries to members of the multicast group comprises updates to data stores associated with nodes that are not members of the multicast group.

Claim 38. (New) The method of Claim 26, wherein the plurality of entries to members of the multicast group comprises updates to data stores associated with nodes that are not members of the multicast group.

Claim 39. (New) The data network of Claim 36, wherein the plurality of entries to members of the multicast group comprises updates to data stores associated with nodes that are not members of the multicast group.